

 CAMP Summer Research Scholars 2004 - 2011 - Did they go to graduate school in Science, Technology, Engineering or Mathematics (STEM) fields?

 Public

**Name of Assessment Project:** CAMP Summer Research Scholars 2004 - 2011 - Did they go to graduate school in Science, Technology, Engineering or Mathematics (STEM) fields?

**Name(s) of Person(s) Responsible for Assessment Project:** CAMP Sci Program Coordinator (Jacqueline Azize-Brewer)

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**Providing Department:** Academic Enrichment Program

**Other Units/Departments Involved in Assessment Project:**

**Program, Service, or Event Related to Assessment Project:** The CAMP Summer Research Program (SRP) is a 10-week, full-time research experience. In order to be able to participate in this program students must be members of the CAMP Science Program (funded by the National Science Foundation), which serves ethnically underrepresented (African American, Mexican American, Latino/Hispanic, American Indian, Alaskan Native, or Native Pacific Islander) students who are U.S. citizens or permanent residents and are seeking bachelor's degrees in chemistry, physics, cognitive science, biology, other sciences, mathematics, engineering and technology. In addition, students must have at least junior standing with a GPA of 2.7 or higher to be eligible to apply to CAMP SRP.

Students participating in CAMP SRP work as research assistants on projects that are supervised by a faculty mentor. In addition, students are trained in how to write and present a research paper and receive GRE preparation instruction. Students receive free on-campus housing (or a stipend to offset the cost of housing if they choose to live off campus) and a \$3,300 fellowship. Participants are required to make oral presentations at the UC San Diego Summer Research Conference and to present their research at the CAMP Statewide Symposium (Winter Quarter of the following academic year.)

**Assessment Project Description:** The assessment project consisted of administering an online survey to CAMP SRP Scholars who participated in the program between 2004 through 2011, all of whom had already graduated at the time the survey was being administered. Students were contacted via e-mail and asked to complete the survey. The survey asked students about graduate/professional school as follows,

- I completed graduate/professional school
- I am currently in graduate/professional school
- I plan on applying to graduate/professional school
- I do not plan on applying to graduate/professional school

In addition the survey asked for type of grad/professional degree and field of study.

Furthermore, we asked students if they were currently employed and if so, to tell us position, company, etc.

Lastly, we also asked them whether they were considering graduate/professional school before and after participating in the program and whether CAMP SRP influenced their decision to attend grad/professional school (if they had completed, were in or plan to go grad/professional school) or to NOT attend grad/professional school (if they do not plan on applying to grad/professional school).

In addition, as part of this assessment we also used tracking information we had on file for some of the students who did not fill out the survey. That information will also be reported below where applicable. Please note that the students who fall in this category all have either completed graduate/professional school or are currently in graduate/professional school.

**Unit/Program Specific Goals and Learning Outcomes:** The goal of this program, as related to this assessment, is to prepare and encourage students to pursue advanced degrees in Science, Technology, Engineering and Mathematics (STEM) fields.

**Relationship to Student Affairs Learning Outcomes:** Advance a Plan for Personal, Academic, and Professional Success

**Assessment Project Start:** 3/4/2013

**Assessment Project End:** 7/21/2014

**Population/Sample:** The number of students in each cohort was as follows,

2004 Cohort: n = 8 [6 were contacted and 4 (or 66.6%) responded to survey]  
 2005 Cohort: n = 7 [7 were contacted and 2 (or 28.5%) responded to survey]  
 2006 Cohort: n = 7 [5 were contacted and 3 (or 60%) responded to survey]  
 2007 Cohort: n = 6 [6 were contacted and 3 (or 50%) responded to survey]  
 2008 Cohort: n = 8 [8 were contacted and 5 (or 62.5%) responded to survey]  
 2009 Cohort: n = 7 [7 were contacted and 6 (or 85.7%) responded to survey]  
 2010 Cohort: n = 8 [8 were contacted and 6 (or 75%) responded to survey]  
 2011 Cohort: n = 13 [13 were contacted and 12 (or 92.3%) responded to survey]

Total number of students who participated in CAMP SRP between 2004-2011 = 64

Number of students (from the 64) who were contacted = 60

Number of students (from the 60 contacted) who filled out the survey = 41 (or 68.3% response rate)

Number of students who did not fill out the survey, but program tracking information on file was used = 7

Number of students for whom graduate/professional school completion/enrollment/planned enrollment will be reported here = 48 (41 who filled out the survey and 7 for whom tracking information already on file was used). This number represents 75% of the students who participated in CAMP SRP from 2004-2011

**For reporting purposes, and only when applicable, the results will be reported based on n = 48 and they will be referred to as "those who were assessed."**

**Type of Assessment:** Student learning outcomes and/or behavioral outcomes

**Other Assessment**

**Type(s):**

**Assessment Methods:** Surveys

**Other Assessment**

**Method(s):**

**Data Collection Tools:** The data were collected via an online survey using a Mach Form. The link to the survey was e-mailed to students. In addition to the survey results, tracking information that was on file and obtained from other sources was also used in this assessment for students who did not fill out the survey.

**Data Analysis Methods:** The data were analyzed by counting the number of students in each of the categories listed in the Results section. In addition to the raw numbers, percentages were also calculated and reported.

**Presentation of Findings:** The results of these findings will be shared with Dr. David Artis, Dean of Undergraduate Research Initiatives, via the Compliance Assist site. They will also be presented to the CAMP Statewide Co-Project Directors, and, at their discretion, these results may also be shared with the National Science Foundation (NSF), CAMP's funding agency. I will also use the data collected in this survey for tracking purposes. It is a long standing goal of CAMP to track its Alumni after graduating from UC San Diego.

**Progress:** 100%

**Link Assessment** N/A

**Project in Campus**

**Labs Baseline :**

Name	Source
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No items to display.

**Summary of Findings: RESULTS (Graduate/Professional School Enrollment)**

*Out of the 48 students who were assessed,*

**\*\* Graduate/Professional School Enrollment \*\***

- Have completed a graduate/professional degree = 19 (or 39.6% of those who were assessed)
- Are enrolled in graduate/professional school = 17 (or 35.4% of those who were assessed)
- Plan to attend graduate/professional school = 9 (or 18.75 % of those who were assessed)
- Do not plan to attend graduate/professional school = 3 (or 6.25% or those who were assessed)

**\*\* Ph.D. Completion/Current Enrollment/Planned Enrollment: n = 17 (or 35.4% of those who were assessed) \*\***

- Completed Ph.D. in STEM = 5 (or 10.4% of those assessed)

- Currently enrolled in Ph.D. program in STEM = 11 (or 22.9% of those who were assessed)
- Plans to attend a Ph.D. program in non-STEM = 1 (or 2.1% those who were assessed)

**\*\* M.S. Completion/Current Enrollment/Planned Enrollment: n = 17 (or 35.4% of those who were assessed) \*\***

- Completed M.S. in STEM = 8 (or 16.7% of those who were assessed)
- Completed M.S. in non-STEM = 1 (or 2.1% of those who were assessed)
- Currently enrolled in M.S. degree in STEM = 5 (or 10.4% of those who were assessed)
- Plan to attend a M.S. program in STEM = 3 (or 6.25% of those who were assessed)

**\*\* Other Graduate Degree completed: n = 1 (or 2.1% of those who were assessed) \*\***

- Completed Other Graduate Degree = 1 (or 2.1% of those who were assessed)

**\*\* Professional Degree Completion/Current Enrollment/Planned Enrollment: n = 6 (or 12.5% of those who were assessed) \*\***

- Completed Professional Degree = 4 (or 8.3% of those who were assessed)
- Currently enrolled in Professional Degree program = 1 (or 2.1% of those who were assessed)
- Plans to enroll in a Professional Degree program = 1 (or 2.1% of those who were assessed)

**\*\* Plan to apply to Grad/Professional School (no field and/or degree specified: n = 4 (or 8.3% of those who were assessed) \*\***

- Plan to apply in STEM (no degree specified) = 3 (or 6.25% of those who were assessed)
- Plans to apply (no field or degree specified) = 1 (or 2.1% of those who were assessed)

**\*\*Do not plan to apply to Grad/Professional School: n = 3 (or 6.25% of those who were assessed) \*\***

- Do not plan to apply to grad/professional school = 3 (or 6.25% of those who were assessed)

**\*\* Graduate School Completion/Current Enrollment/Planned Enrollment in STEM: n = 36 (or 75% of those who were assessed) \*\***

NOTE: See above for breakdown (numbers and percentages) of Completed, Current Enrollment and Planned Enrollment in Ph.D., M.S., and Other graduate degree in STEM fields as it corresponds to the total number of those assessed [n = 48]. The percentages below correspond to a subset of the 48 students who were assessed- the 36 in post-baccalaureate STEM fields.

- Ph.D. Completion (n = 5 or 13.9%) / Current Enrollment (n = 11 or 30.6%) /Planned Enrollment (n = 0 or 0%) in STEM = 16 (or 44.5% of the 36 total in STEM)
- M.S. Completion (n = 8 or 22.2%) / Current Enrollment (n = 5 or 13.9%) / Planned Enrollment (n = 3 or 8.3%) in STEM = 16 (or 44.4% of the 36 total in STEM)
- Plan to apply in STEM (no degree specified) = 3 (or 8.3% of the 36 total in STEM)
- Completed other degree in STEM = 1 (or 2.8% of the 36 total in STEM)

**INTERPRETATION (Graduate/Professional School Enrollment Results)**

The results indicate that,

- 75% of the students who were assessed have completed or are currently enrolled in graduate or professional school. These results suggest a combination of two things that might be happening- that we are selecting the right students for the program and/or that the program is awakening and/or sustaining their desire to attend Grad/professional school.
- 18.75% of the students who were assessed plan to enroll in graduate or professional school. It is important to note that although this is very encouraging, it is not a guarantee that these students will pursue graduate or professional school. Things might happen that could prevent them from enrolling in a graduate or professional degree program. In addition, we don't know when they plan to enroll. It could be in a year or it could be in 5 or more years. Still, these numbers are

encouraging because they suggest that we are selecting students who are still interested in graduate or professional school even if they don't go enroll right away after finishing their undergraduate training.

- 62.5% of the students who were assessed stayed- and 12.5% plan to stay in STEM fields for graduate school. These results suggests that CAMP SRP is a positive influence for keeping approximately 3/4 of the students in STEM fields.

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**RESULTS (Consideration of Graduate/Professional School Before and After CAMP SRP)**

*Out of the 41 students who responded to the survey,*

**\*\* Grad/Professional School consideration before and after CAMP SRP \*\***

- Considered attending Grad/Professional School before AND after CAMP SRP = 28 (or 68.3% of the respondents)

Out of the 28 students,

- 16 (or 57.1%) "Agree" that CAMP SRP influenced their decision to attend grad/professional school
- 7 (or 25%) "Somewhat Agree" that CAMP SRP influenced the decision to attend grad/professional school
- 2 (or 7.1%) was "Neutral" that CAMP SRP influenced the decision to attend grad/professional school
- 1 (or 3.6%) "Somewhat Disagree" that CAMP SRP influenced the decision to attend grad/professional school

2 (or 7.1%) did not answer the question as to whether CAMP SRP influenced the decision to attend grad/professional school

- Did not consider attending Grad/Professional School before CAMP SRP and considered attending after CAMP SRP = 13 (or 31.7% of the respondents)

Out of the 13 students,

- 10 (or 77%) "Agree" that CAMP SRP influenced their decision to attend grad/professional school
- 1 (or 7.7%) "Somewhat Agree" that CAMP SRP influenced the decision to attend grad/professional school
- 1 (or 7.7%) was "Neutral" that CAMP SRP influenced the decision to attend grad/professional school

1 (or 7.7%) did not answer the question as to whether CAMP SRP influenced the decision to attend grad/professional school

**INTERPRETATION (Consideration of Graduate/Professional School Before and After CAMP SRP Results)**

The results indicate that,

- 68.3% of the students were already considering graduate/professional school before participating in CAMP SRP and this remained the same after participating in CAMP SRP. In addition, 82.1% of these students "agree" or "somewhat agree" that CAMP SRP influenced their decision to attend graduate/professional school. These results suggest that CAMP SRP solidified their desire to continue on to secure grad/professional degrees.
- The most interesting result from this question is that 31.7% of the respondents were not considering grad/professional school before CAMP SRP and that after CAMP SRP almost 85% of them "agree" or "somewhat agree" that CAMP SRP influenced their decision to attend graduate/professional school. These results suggest that for a subset of the students CAMP SRP was a crucial determinant in their future pursue of a grad/professional degree. These results could encompass those students who on their application tell us that they are not sure whether graduate school is for them and we believe when we select them that the program could make a big difference and have great impact in their decision.

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**RESULTS (CAMP SRP as influence for attending (or not) Graduate/Professional School )**

*Out of the 41 students who responded to the survey,*

**\*\* CAMP SRP Influence in attending or not attending graduate school \*\***

- CAMP SRP influenced your decision to attend Grad/Professional school

- Agree = 25 (or 61% of respondents)
- Somewhat Agree = 9 (or 22% of respondents)

Neutral = 2 (or 4.9% of respondents)  
Somewhat Disagree = 0  
Disagree = 0  
Did not answer/left blank = 2 (or 4.9% of respondents)

- CAMP SRP influenced your decision to NOT attend Grad/Professional school

Agree = 0  
Somewhat Agree = 0  
Neutral = 1 (or 2.4% of respondents)  
Somewhat Disagree = 1 (or 2.4% of respondents)  
Disagree = 1 (or 2.4% of respondents)  
Did not answer/left blank = 0

### **INTERPRETATION (CAMP SRP as influence for attending (or not) Graduate/Professional School Results)**

The results indicate that,

- 83% of the students feel that CAMP SRP influenced their decision to attend grad/professional school. These results suggest that CAMP SRP is a positive influence in this regard and that the program is fulfilling one of its main goals which is to seriously foster the consideration of graduate school in STEM.
- The three students who answered that they are not planning to go to graduate/professional school indicated that CAMP was not influential in their decision to not attend graduate/professional school. These results suggest that most likely there are other reasons as to why these students made this decision. Although not reported as part of the results, all three of these students are working in STEM fields.

**Impact of Assessment:** The results of this assessment will be used to demonstrate that CAMP SRP is program that achieves its goals. We will be using a similar selection process for future years, with some possible fine tuning where indicated. We have the applications of all these students on file and could potentially review side by side their personal statements and the answers to some of the questions in the survey to help us improve the selection process of these scholars. Although not reported here, we have qualitative data which could be used when advertising the program or reporting on the program. In addition, the data collected in the surveys will be used to update the existing tracking file of CAMP Alumni.

**Lessons Learned:** Lessons learned from conducting the assessment,

- We followed up with the students up to three times in order to get as many of them to complete the survey as possible. Also, one student was asked in person to fill out the survey after he hadn't replied to the e-mail requests. It proved important to be persistent.
- We also resorted to social media (Facebook) to contact the students to get an updated personal e-mail where we could send the survey. In some cases the message and survey was sent via the Facebook e-mail. It is important to try different ways of contacting the students if possible.
- Once a student filled out the survey, he/she received a personal e-mail thanking them for filling out the survey and to let them know that we would contact them in the future if we had any questions about any of the answers. This was important to let them know that we appreciate their participation and that we were expecting their survey. In addition, sending this e-mail provided another opportunity for the program to stay in touch with these alumni.
- It is important to set some time aside every so often to check in with CAMP Alumni to continue developing the relationship that was started when they were students at UCSD and to update contact information
- In the e-mail we sent them with the link to the survey, we told them approximately how long the survey was going to take to complete and the reason for doing the survey. It is believed that providing them with this information helped encourage them to complete the survey.
- There are some students who didn't fill out the survey for whom we know whether they are in graduate school. It would have been advisable to determine ahead of time if it was acceptable for the staff to fill out some of the survey questions for these students so that those data could also be used in the survey. It was decided after consultation with Marlene Lowe, Assessment Advisor, that it would be advisable to include the information on graduate/professional school completion and enrollment for this group of students as long as a provision/statement was made about this when describing the assessment project and, if applicable, when reporting the results.
- Being able to use tracking information for the students who did not fill out the survey confirmed the importance of having a tracking database in place for program Alumni and not assuming that students will always fill out surveys or other documents when we contact them. It has proven valuable to "capture" tracking information whenever students provide it to us. This could be done via a check in e-mail that they may send, a stop by the office to visit, etc. Also, the program consistently makes a point/effort to ask students what they have been doing after graduation from UC San Diego whenever

they check in with the office for any other matters. This system assists with ongoing tracking and is applied to all CAMP students and not only to the ones who have participated in CAMP SRP.

- Since the main goal of CAMP SRP is to prepare students for graduate school in STEM, I believe that the survey could have been designed to ask questions about graduate school only and not necessarily about professional school. However, it was good to see what percentage of respondents opted for professional school and not graduate school. Going back and re-reading the CAMP SRP applications for these students could shed some light as to how to best screen out students who end up getting professional degrees instead of going to graduate school.

- One of the questions in the survey asked about whether CAMP SRP influenced their decision to attend grad/professional school. We could have also asked whether they felt that CAMP SRP prepared them better for graduate/professional school. This question would have been especially important for students who responded that they were already considering graduate/professional school before CAMP SRP.

### **Supplemental Information:**

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